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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/758,007

DATE: 02/07/2002
TIME: 13:35:47

Input Set : A:\seqlist.txt
Output Set: N:\CRF3\02072002\I758007.raw

ENTERED

3 <110> APPLICANT: Zon, Leonard I.
4 Amatruda, James
5 Shepard, Jennifer
7 <120> TITLE OF INVENTION: METHOD FOR IDENTIFYING GENES INVOLVED IN CELL PROLIFERATION
9 <130> FILE REFERENCE: 701039-50920
11 <140> CURRENT APPLICATION NUMBER: 09/758,007
12 <141> CURRENT FILING DATE: 2001-01-10
14 <160> NUMBER OF SEQ ID NOS: 3
16 <170> SOFTWARE: PatentIn version 3.1
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 903
20 <212> TYPE: PRT
21 <213> ORGANISM: Danio rerio
23 <400> SEQUENCE: 1
25 Met Pro Pro Lys Lys Arg Ser Ser Gly Thr Pro Gln Lys Lys Glu Leu
26 1 5 10 15
29 Lys Gly Ser Leu Lys Ser Arg Ser Pro Asp Ser Gly Asp Asn Ala Val
30 20 25 30
33 Leu Ser Pro Glu Arg His Lys Asp Lys Asp Pro Glu Phe Val Phe Leu
34 35 40 45
37 Ser Glu Glu Leu Gln Ser Thr Asn Ser Ile Cys Asp His Ala Trp Arg
38 50 55 60
41 Ile Trp Glu Arg Glu Ile Arg Ser Met Asp Lys Thr Asn Met Pro Tyr
42 65 70 75 80
45 Ser Asn Arg Gln Gln Trp Gly Ala Cys Leu Phe Ile Ala Gly Met Glu
46 85 90 95
49 Leu Glu Gly Ile Asn Leu Thr Phe Thr Gln Phe Leu Lys Ala Val Gly
50 100 105 110
53 Leu Ser Val Lys Gln Phe Ile Ser Leu Val Arg Lys Met Asp Val Asn
54 115 120 125
57 Val Asp Thr Ile Ser Pro Lys Val Asn Ser Ala Val Thr Arg Leu Glu
58 130 135 140
61 Asn Lys Tyr Asp Val Thr Leu Ala Leu Tyr Gln Arg Phe Val Lys Thr
62 145 150 155 160
65 Cys Glu Lys Ile Phe Ala Glu Pro Asp Asn Ala Lys Arg Lys Glu Leu
66 165 170 175
69 Trp Glu Ser Ser Trp Thr Met Phe Leu Leu Ala Lys Gly Thr Phe Leu
70 180 185 190
73 Gln Met Glu Asp Asp Leu Val Ile Ser Phe Gln Leu Leu Leu Cys Val
74 195 200 205
77 Leu Glu Phe Phe Ala Lys Arg Leu Ser Pro Ser Leu Leu Gln Ser Pro
78 210 215 220
81 Tyr Asn Ser Val Val Ser Ser Thr Leu Ser Pro Pro Thr Arg Thr

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82	225	230	235	240
85	Ser Arg Arg Asn Gln Gly Lys Ser Lys Pro Arg Pro Ala Glu Met Asp			
86	245	250	255	
89	Met Gln Leu Leu Glu Thr Leu Cys Lys Glu Gly Asp Cys Ser Val Asp			
90	260	265	270	
93	Glu Val Lys Asn Val Tyr Gln Ser Thr Phe Cys Ala Phe Leu Asp Ser			
94	275	280	285	
97	Val Gly Leu Leu Gly Leu Gln Gly Leu Pro Pro Met Glu Ala Leu Ser			
98	290	295	300	
101	Lys Gln Tyr Glu Glu Leu Tyr His Lys Ser Lys Asp Phe Asp Ala Arg			
102	305	310	315	320
105	Leu Phe Leu Ser Asp Asp Glu Thr Leu Ser Pro Asn Lys Ile Glu Val			
106	325	330	335	
109	Ser Lys Val Glu Val Thr Pro Arg Lys Asn Leu Phe Ala Glu Asp Ile			
110	340	345	350	
113	Ala Ile Pro Val Pro Gln Thr Pro Ile Arg Ala Ala Met Thr Ser Ile			
114	355	360	365	
117	Gln Gln Leu Arg Gly Asp Leu Thr Ser Gly Ser Asp Gln Pro Ser Ser			
118	370	375	380	
121	Asn Leu Leu Val Tyr Tyr Lys Asn Cys Thr Val Asp Pro Ser Gly Glu			
122	385	390	395	400
125	Ile Lys Lys Arg Val Glu Glu Leu Gly Glu Val Phe Ile Gln Arg Phe			
126	405	410	415	
129	Ala Gln Ala Val Gly Gln His Cys Glu Gly Leu Gly Arg Lys Arg Phe			
130	420	425	430	
133	Tyr Leu Gly Ala Gln Leu Tyr Tyr Lys Val Met Glu Ser Met Leu Lys			
134	435	440	445	
137	Ser Glu Glu Lys Arg Leu Ser Val Gln Asn Phe Ser Lys Leu Leu Asn			
138	450	455	460	
141	Asn Ala Ala Phe His Thr Ser Leu Leu Ala Cys Ala Leu Glu Val Val			
142	465	470	475	480
145	Ile Ala Thr Tyr Val Gly Ser Ser Leu Lys Asn Gly Gly Phe Gly Arg			
146	485	490	495	
149	Ser Ser Gly Ala Ser Asp Ser Val Glu Ser Asp Leu Cys Phe Pro Trp			
150	500	505	510	
153	Ile Leu Ser Val Phe Gln Leu Pro Ala Phe Asp Phe Tyr Lys Val Ile			
154	515	520	525	
157	Glu Ser Phe Ile Lys Ala Glu Pro Thr Leu Lys His Asp Met Val Lys			
158	530	535	540	
161	His Leu Glu Gln Cys Glu His Val Ile Met Glu Ser Leu Ala Trp Arg			
162	545	550	555	560
165	Ala Asp Ser Pro Leu Phe Asp Leu Leu Lys Gln Ser Arg Glu Glu Gly			
166	565	570	575	
169	Pro Gly Glu Gln Ala Glu Pro Pro Ala Thr Leu Asn Gln Pro Leu His			
170	580	585	590	
173	His Asn His Thr Ala Ala Asp Leu Tyr Leu Ser Pro Val Arg Pro Cys			
174	595	600	605	
177	Arg Gln Pro Pro Val Met Glu Ala Glu Pro Pro Thr Pro Gly Thr Arg			
178	610	615	620	

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181 Ala Pro Arg Ser Asn Ser Leu Ser Leu Phe Tyr Lys Lys Leu Tyr Arg
 182 625 630 635 640
 185 Met Ala Tyr Leu Arg Leu Lys Met Leu Phe Ser Asn Leu Leu Thr Ser
 186 645 650 655
 189 His Pro Glu Met Glu Pro Ile Ile Trp Thr Leu Leu Gln His Thr Leu
 190 660 665 670
 193 Gln Asn Glu Tyr Glu Leu Met Arg Asp Arg His Leu Asp Gln Leu Ile
 194 675 680 685
 197 Met Ser Ala Met Tyr Ala Ile Cys Lys Val Lys Asn Val Asp Leu Arg
 198 690 695 700
 201 Phe Lys Thr Ile Val Thr Ala Tyr Lys Glu Leu Pro Asn Thr Asn Gln
 202 705 710 715 720
 205 Glu Thr Phe Lys Arg Val Leu Ile Arg Glu Gly Gln Tyr Asp Ser Ile
 206 725 730 735
 209 Ile Val Phe Tyr Asn Leu Val Phe Met Gln Lys Leu Lys Thr Asn Ile
 210 740 745 750
 213 Leu Gln Tyr Ser Ser Pro Arg Pro Pro Pro Leu Ser Pro Ile Pro His
 214 755 760 765
 217 Ile Pro Cys Ser Pro Tyr Lys Asn Ser Pro Leu Arg Val Pro Gly Ser
 218 770 775 780
 221 Asn Asn Val Tyr Val Ser Pro Leu Lys Ser Ser Arg Val Ser Pro Leu
 222 785 790 795 800
 225 Val Met Thr Pro Arg Ser Arg Ile Leu Ile Ser Ile Gly Glu Ser Phe
 226 805 810 815
 229 Gly Ser Ala Asp Lys Phe Gln Lys Ile Asn Gln Met Val Ser Ser Ser
 230 820 825 830
 233 Asp Trp Ser Leu Lys Arg Ser Leu Asp Gly Gly Ser Ala Pro Lys Pro
 234 835 840 845
 237 Leu Lys Arg Leu Arg Phe Asp Met Asp Gly Gln Asp Glu Ala Asp Gly
 238 850 855 860
 241 Ser Lys Ser Ser Gly Glu Ser Ala Leu Ile Gln Lys Leu Ala Glu Met
 242 865 870 875 880
 245 Ser Ser Thr Arg Ser Arg Met Gln Glu Gln Lys Leu Lys Glu Glu Ser
 246 885 890 895
 249 Asp Lys Asp His Pro Glu Pro
 250 900
 253 <210> SEQ ID NO: 2
 254 <211> LENGTH: 899
 255 <212> TYPE: PRT
 256 <213> ORGANISM: Xenopus
 258 <400> SEQUENCE: 2
 260 Met Pro Pro Lys Ser Pro Arg Lys Gln Gln Ile Arg Ser Gln Gly Glu
 261 1 5 10 15
 264 Pro Arg Ser Pro Asp Arg Pro Asp Phe Gln Asp Pro Asp Phe Asn Phe
 265 20 25 30
 268 Leu Cys Glu Asn Leu Lys Ile Ser Asp Asn Val Arg Gly Lys Ala Trp
 269 35 40 45
 272 Asn Thr Tyr Glu Lys Met Phe Pro Ser Gly Tyr Met Met Arg Glu Thr
 273 50 55 60

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276 Ala Lys Lys Lys Glu Ser Leu Gly Leu Cys Leu Tyr Ile Ala Ser Val
277 65 70 75 80
280 Asp Cys Glu Glu Met Thr Phe Thr Phe Thr Glu Leu Leu Lys Ile Leu
281 85 90 95
284 Arg Leu Ser Val Asn Arg Cys Phe Arg Leu Leu Arg Glu Met Asp Ile
285 100 105 110
288 Asn Met Asp Val Leu Ser Asn Lys Val Asp Asn Ala Ile Ser Lys Leu
289 115 120 125
292 Lys Lys Lys Tyr Glu Asn Met Cys Leu Leu Phe Gln Lys Phe Gln Arg
293 130 135 140
296 Thr Phe Glu Leu Ile Phe Glu Glu Gln His Asn Thr Arg Ala Ala Val
297 145 150 155 160
300 Asp Thr Ala Pro Ile Leu Lys Gly Thr Trp Ile Thr Phe Leu Leu Ala
301 165 170 175
304 Arg Gly Lys Ile Leu Gln Met Asp Asp Glu Leu Val Ile Ser Ser Gln
305 180 185 190
308 Leu Leu Leu Cys Val Leu Asp Tyr Phe Ile Lys Leu Ser Pro Pro Ser
309 195 200 205
312 Ile Leu Lys Glu Pro Tyr Lys Ser Ala Leu Asn Gly Leu Pro Val Asn
313 210 215 220
316 Thr Pro Pro Arg Ser Ser Arg Arg Ser Gln Asn Arg Asn Thr Arg Val
317 225 230 235 240
320 Ser Pro Gln Ser Glu Thr Asp Ser Lys Val Leu Glu Phe Leu Cys Ser
321 245 250 255
324 Gln Asn Tyr Cys Pro Met Asp Glu Val Arg Asn Val Tyr Ser Thr Ser
325 260 265 270
328 Phe Val Asp Phe Leu Ala Ser Ala Gly Ile Ser Ser Asn Glu Gly Ile
329 275 280 285
332 Pro Lys Val Glu Ser Ile Ser Arg Gln Tyr Glu Glu Leu Tyr His Lys
333 290 295 300
336 His Lys Asp Leu Asp Ala Arg Leu Phe Leu Glu Asn Asp Glu Thr Leu
337 305 310 315 320
340 Lys Val Asp Val Gln Asp Ser Leu Asp Leu Glu Arg Thr Pro Arg Lys
341 325 330 335
344 Asp Glu Ser Glu Val Phe Pro Val Pro Pro Gln Thr Pro Val Arg Gly
345 340 345 350
348 Ala Met Asn Thr Val Gln Gln Leu Met Val Thr Leu Ser Ser Ala Asn
349 355 360 365
352 Asp Lys Pro Pro Asp Thr Leu Asp Ser Tyr Phe Ser Asn Cys Thr Val
353 370 375 380
356 Asn Pro Lys Thr Lys Ile Thr Asp Arg Ile Glu His Phe Gly His Val
357 385 390 395 400
360 Phe Lys Glu Lys Phe Ala Ser Ser Val Gly Gln Ala Cys Ala Glu Ile
361 405 410 415
364 Gly Tyr Gln Arg Tyr Lys Leu Gly Val Cys Leu Tyr Tyr Arg Val Met
365 420 425 430
368 Glu Ala Ile Leu Lys Thr Glu Glu Arg Leu Ser Val His Asn Phe
369 435 440 445
372 Ser Lys Leu Leu Asn Asn Asp Ile Phe His Ile Cys Leu Leu Ala Cys

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373	450	455	460
376	Ala Val Glu Val Val Val Ala Ser Tyr Ala Arg Asn Ala Ser Gln Ala		
377	465	470	475
380	Tyr Cys Ser Ser Gly Thr Asn Leu Ser Phe Pro Trp Ile Leu Arg Ala		480
381	485	490	495
384	Phe Glu Ile Lys Ala Phe Asp Phe Tyr Lys Val Ile Glu Cys Phe Ile		
385	500	505	510
388	Lys Ala Glu Pro Ser Leu Thr Ser Asn Met Ile Lys Tyr Leu Glu Arg		
389	515	520	525
392	Cys Glu His Gln Ile Met Glu Cys Leu Ala Trp Gln Ser Asp Ser Pro		
393	530	535	540
396	Leu Phe Asp Leu Ile Lys Gln Thr Arg Glu Arg Glu Gly Leu Val Asp		
397	545	550	555
400	His Pro Glu Leu Val Ser Asn Leu Gln Gln Pro Val Gln His Asn His		
401	565	570	575
404	Thr Ala Ala Asp Leu Tyr Leu Ser Pro Ser Arg Ser Ser His Gln His		
405	580	585	590
408	Pro Val Thr Ser Val Pro Thr Ser Ser Val Thr Asn Gly Gln Val Ser		
409	595	600	605
412	Ser Ser Gln Pro Val Gln Gln Lys Ser Thr Ser Leu Ser Leu Phe Tyr		
413	610	615	620
416	Lys Lys Val Tyr Leu Leu Ala Tyr Lys Arg Leu Ser Ser Leu Cys Ser		
417	625	630	635
420	Ser Leu Leu Ser Asp His Pro Glu Leu Glu Gln Val Ile Trp Thr Leu		
421	645	650	655
424	Leu Gln His Thr Leu Gln Glu Tyr Glu Leu Met Arg Asp Arg His		
425	660	665	670
428	Leu Asp Gln Ile Met Met Cys Ser Met Tyr Gly Ile Cys Lys Ala Lys		
429	675	680	685
432	Asn Ile Asp Leu Arg Phe Lys Thr Ile Val Thr Ala Tyr Lys Gly Leu		
433	690	695	700
436	Thr Asn Thr Asn Gln Glu Thr Phe Lys His Val Leu Ile Arg Asp Gly		
437	705	710	715
440	Gln His Asp Ser Ile Ile Val Phe Tyr Asn Leu Val Phe Met Gln Lys		
441	725	730	735
444	Leu Lys Ser His Ile Leu Gln Tyr Gly Ser Ala Arg His Pro Thr Leu		
445	740	745	750
448	Ser Pro Ile Pro His Ile Pro Arg Ser Pro Tyr Arg Phe Gly Asn Ser		
449	755	760	765
452	Pro Lys Val Pro Gly Asn Ile Tyr Val Ser Pro Leu Lys Thr Pro Tyr		
453	770	775	780
456	Lys Thr Ala Asp Gly Leu Leu Ser Pro Ser Lys Met Thr Pro Lys Thr		
457	785	790	795
460	Ser Phe Leu Ile Ser Leu Gly Glu Thr Phe Arg Ser Pro Asp Arg Phe		
461	805	810	815
464	Gln Lys Ile Asn Gln Met Leu Asn Ser Cys Glu Arg Pro Ile Lys Arg		
465	820	825	830
468	Ser Ala Asp Thr Gly Thr Pro Lys Pro Leu Lys Lys Leu Arg Phe		
469	835	840	845

VERIFICATION SUMMARY

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